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podus riparius is currently identified with *Trogosus* or *Tillotherium* of the Bridger Middle Eocene. If this identification is correct and if it came from the Shark River beds, then these are probably Middle Eocene, possibly later, but not earlier."⁵ (d) The fact that the Pamunkey embayment or segment filled in seaward during Eocene time till the Carolina end of the arc was reached in late Eocene times, would suggest a similar age for the New Jersey beds at the other end of the arc.

The conclusions from the above outline of facts may be thus briefly summarized:

(a) The Eocene beds in New Jersey may be in the same trend of the Maryland Eocene outcrops, but this fact has little to do with the relative age of the deposits.

(b) The known Shark River fauna shows very little relationship with the comparatively near-lying Pamunkey faunas; still less with any known lower or basal Eocene, Midway fauna.

(c) The general aspect of the Shark River fauna with its many species closely allied to or identical with Claibornian forms would seem quite sufficient in itself to cause these New Jersey beds to be referred to a horizon *above* instead of *below* the mass of Pamunkey deposits.

(d) Data from other paleontologic sources are of a questionable nature, but so far as they go they seem to support the writer's contention.

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A PHYTOPHTHORA ON OATS

WHILE in the recently started experiment garden at Stanford University on February 10, I noticed on the leaves of volunteer oats markings such as I had not seen before.

On examining the material in the laboratory, the markings were found to be due to a species of *Phytophthora*. The markings may appear as spots or as stripes along one or both margins of the leaf, or as a stripe down the

⁵ Matthew, *ex lit.*

center. The diseased areas become yellowish, and then whitish when conidia are abundant. Later these areas, which sometimes have a water-soaked appearance, become brown or reddish-brown, and the parts shrivel and dry up.

The short, hyaline, unbranched conidiophores ($4-5 \times 15-300 \mu$) issue from the stomata on both sides of the leaves and usually bear a single ovate or obpyriform conidium. The conidia are quite large ($30-42 \times 42-78 \mu$, occasionally one is much smaller) and fall away with a small part of the conidiophore attached. They germinate by producing numerous zoospores. Chlamydospores were found crowded together in the tissues of some of the older diseased areas. They were globular, hyaline or very light yellow, some thin-walled and others thick-walled, and $12-18 \mu$ in diameter. In some leaves oospores were also found abundantly. The oogonia were thin-walled and $30-39 \mu$ in diameter. The globular oospores were $27-30 \mu$ in diameter, the epispore being smooth, hyaline or light yellow, and about 2μ thick.

The species is certainly very similar to *Phytophthora Colocasiae* Rac. on the taro (*Colocasia esculenta*) in Java, India and Formosa, but a more extended study is necessary to determine its specific rank. It has been found in several fields about Stanford University and by the state highway near Mayfield, California. As a large percentage of the plants were infected in some localities, the fungus may become of considerable economic importance.

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STANFORD UNIVERSITY,
February 17, 1916

ENDURANCE OF THE PORPOISE IN CAPTIVITY

THE New York Aquarium lost last year a most attractive exhibit, the bottle-nosed porpoise (*Tursiops truncatus*) which has lived in the large central pool of the building for more than twenty-one months.

The cause of its death was a mixed infection, which in a few days attacked every part of its skin, covering the smooth glistening surface with unsightly pustules. This infection